PATENT
Docket No. 42.P11222

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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JUL 2 7 2005

In re Patent Application of)
)
Andre ZACCARIN)   Group Art Unit: 2613
)
Application No.: 10/032,349   (Pub. # US 2003/0118104))   Examiner: Y. Lee
)
Filed: December 21, 2001)
)
For: SYSTEM, METHOD, AND SOFTWARE FOR)
      ESTIMATION OF MOTION VECTORS)
)

37 C.F.R. §§ 1.144 and 1.181 PETITION

Mail Stop **Petition**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated April 25, 2005, which made final the Restriction Requirement mailed December 13, 2004, Applicant hereby petitions the Director under 37 C.F.R. §§ 1.144 and 1.181.

In particular, Applicant respectfully invokes the supervisory authority of the Director to review the Restriction Requirement, for the reasons outlined below. Applicant previously requested reconsideration of the Restriction Requirement in the Response filed January 13, 2005.

CERTIFICATE OF TRANSMISSION	
I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below	
By: _Cathy Dikes_ Cathy Dikes	Date: _July 27, 2005_

REMARKS

In the Restriction Requirement, the Examiner required restriction among the following groups of claims:

I.   Claims 1-9 and 16-26.

II.   Claims 10-15.

III.   Claims 27 and 28.

IV.   Claims 29 and 30.

M.P.E.P. § 803 states that for a restriction to be proper: "(A) The inventions must be independent . . . or distinct as claimed . . . ; and (B) There must be a serious burden on the examiner if restriction is required."

A.   No serious burden:

Addressing the second requirement, the facts and circumstances all indicate that there is no "serious burden" in examining all of claims 1-30, even if the inventions were independent or distinct as claimed. On page 2 of the Restriction requirement, only Group I is correctly classified in class 375, subclass 240.16: "Motion vector." The remaining Groups II-IV are incorrectly classified outside of subclass 240.16, where they properly belong with the claims of Group I.

The plain claim language of Groups II-IV places them squarely in class 375, subclass 240.16: "Motion vector." For example, claim 10 (Group II) recites a "method of estimating a motion vector . . . comprising . . . determining the motion vector based on the target block and the one of the first and second minimum blocks." Also, claim 27 (Group III) recites an "image encoder including a motion estimator for estimating a motion vector . . . the motion estimator comprising: . . . an estimation module that estimates the motion vector." Further, claim 29 (Group IV) recites a "method of estimating a motion vector for a target block of pixels . . . comprising: . . . determining the motion vector based on one of the candidate blocks." All of claims are plainly directed to motion estimation and are properly classified together in class 375, subclass 240.16: "Motion vector."

Regarding the misclassification of Group II into subclass 240.27: "Error detection or correction," the mere recitation of determining a motion vector "based on . . . one of the first and second minimum blocks associated with the lesser of the first and second distortion measures"

does not equate to "the detection or correction of errors in the coding process" (the description of subclass 240.27 from the Manual of Classification). That distortion measures are used in motion vector estimation does not imply that errors in a coding process are detected or corrected.

Similarly, claims 27-30 (Groups III and IV) are misclassified in into subclass 240.24: "Block coding." As explained above, the claims in Groups III and IV concern estimation of motion vectors, and not coding data in blocks. That claims 27-30 may recite blocks is irrelevant to subclass 240.24, because these blocks are used in estimating motion vectors, and not for "coding" as indicated in the Manual of Classification.

As explained above, Groups I-IV are properly classified in a single class (i.e., 375) subclass (i.e., 240.16: "Motion vector"). Because "the classification is the same and the field of search is the same and there is no clear indication of separate future classification and field of search" (M.P.E.P. § 808.02), restriction is not proper among Groups I-IV. The requirement should be withdrawn for at least this reason.

1. Examiner's response:

In the Office Action dated April 25, 2005, the Examiner responds that "this would implied [sic] every invention that deals with MPEG compression would be classified in one subclass because they all inherently deal with motion vectors."

2. Applicant's reply:

How the Office classifies other applications is irrelevant to the mis-classification of claims in this application solely so that the Examiner can avoid examining them. Whatever class and sub-class the claims of Groups I-IV belong in, it is the *same one*. Contrast the subject matter of claim 1 (Group I), claim 10 (Group II), claim 27 (Group III), and claim 29 (Group IV). No meaningful difference in classification can be drawn between the four groups.

Further, according to the Examiner Search Notes dated 4/25/05 that are available in Public PAIR and attached to this Petition as Exhibit I, the Examiner has already searched class/sub 375/240.27 (Group II) and class/sub 375/240.24 (Groups III and IV). Because the Examiner has already searched all of the subclasses that allegedly correspond to Groups II-IV, there is no "serious burden" in examining the claims (i.e., 10-15 and 27-30). Applicant notes in

passing that the reference actually applied against the claims did not come from the search, but rather from Applicant's own IDS.

For at least these reasons, the Restriction Requirement should be withdrawn, because there is no serious burden in examining Groups II-IV, claims 10-15 and 27-30.

B.   Groups not patentably distinct:

It readily apparent that paragraphs 0011 to 0042 and Figs. 1-3 of the published application describe a single embodiment of the invention. That Applicant has chosen to claim this one embodiment in different ways does not create independent or distinct inventions. See M.P.E.P. § 806.03 ("Where the claims of an application define the same essential characteristics of a single disclosed embodiment of an invention, **restriction therebetween should never be required.** This is because the claims are but different definitions of the same disclosed subject matter . . ." (emphasis added)). Hence the claims cannot be patentably distinct, because they define the same essential characteristics of the single disclosed embodiment. The requirement should be withdrawn for this additional reason.

1.   **Examiner's response:**

In the Office Action dated April 25, 2005, the Examiner responds that "the current application is subjected to a restriction requirement, not an election of species."

2.   **Applicant's reply:**

M.P.E.P. § 806.03 explicitly refers to "restriction" as shown in the bolded portion of the above quote. Hence, M.P.E.P. § 806.03 applies to Restriction Requirements. The Examiner does not dispute either that the application describes a single embodiment or that the claims define the same essential characteristics of this embodiment. Hence, restriction is plainly improper under M.P.E.P. § 806.03.

Further, in portion 2, the Restriction requirement alleges that Group I is a combination and that Groups II-IV are subcombinations. This portion also alleges that the "subcombination has separate utility such as estimating motion vectors based on collinear pixels rather than search areas of the reference frame." To the contrary, claim 1 in Group I, which is alleged to be the

combination, also estimates motion vectors based on collinear pixels (e.g., "the first distortion function based only on a set of two or more collinear pixels from the target block and a set of two or more collinear pixels from block B_i"). Thus, the two-way test for combination-subcombination distinctness fails for Groups I-IV. The requirement should be withdrawn for this additional reason.

> ### 3.   Examiner's response:

In the Office Action dated April 25, 2005, the Examiner apparently abandons the "collinear pixel" argument in the Restriction Requirement and responds that "Group I requires defining a search area of the reference frame that is not required in the subcombination of Group IV."

> ### 4.   Applicant's reply:

First, this response fails to allege any separate utility based on this distinction. Nor can one be alleged, because it is well known that the estimation of motion vectors (which *is* claimed in Group IV, claim 29) involves a search area over which a candidate block is matched. That Applicant did not explicitly recite "defining a search area in claim 29" does not magically convert this claim into a subcombination of claim 1. Rather, as explained above with regard to M.P.E.P. § 806.03, all pending claims define the same essential characteristics of a single disclosed embodiment, and any attempt to characterize them as combination/subcombination is both arbitrary and incorrect.

For at least these reasons, the Restriction Requirement should be withdrawn, because Groups I-IV are not patentably distinct.

Because Groups I-IV have not acquired a separate status in the art, and because these groups are not distinct, all pending claims in Groups I-IV should be examined together.

Conclusion:

There is no "serious burden" to examine the claims of Groups I-IV, for which Applicant has paid. Nor are these Groups I-IV patentably distinct. Accordingly, Applicant respectfully requests under 37 C.F.R. §§ 1.144 and 1.181 that the Director instruct the Examiner to withdraw the Requirement for Restriction and to examine withdrawn claims 10-15 and 27-30.

Fees:

Because neither 37 C.F.R. § 1.144 nor 37 C.F.R. § 1.17 specifies a petition fee for petitions under 37 C.F.R. § 1.181, Applicant assumes that no fee is due for this petition. To the extent that a petition fee is in fact necessary, please charge any shortage in fees due in connection with the filing of this paper (e.g., such petition fee), including extension of time fees, to Deposit Account No. 50-0221 and please credit any excess fees to such deposit account.

Respectfully submitted,

Dated: July 27, 2005

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10/032,349		ZACCARIN, ANDRE	
Examiner		Art Unit	
Y. Lee		2613	

Exhibit I

SEARCHED			
Class	Subclass	Date	Examiner
375	240.01	4/13/2005	YL
	240.12		
	240.16		Group I
	240.17		
	240.21		
	240.24		Groups III & IV
	240.26		
	240.27		Group II
H04N	7/12		

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
consulted with A. Rao–2613	4/14/2005	YL

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner